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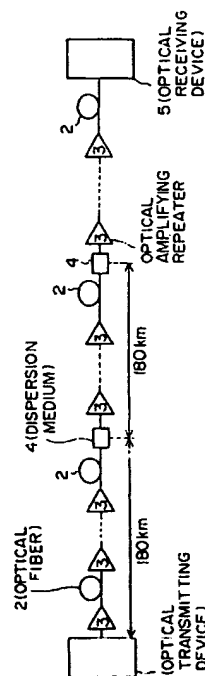
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(54) **Optical amplifying-repeating transmission system with wavelength dispersion compensation**

(57) An optical amplifying-repeating transmission system is disclosed which is composed of an optical fiber (2) for transmitting a lightwave signal with digital information added to return-to-zero lightwave pulses and a plurality of optical amplifying repeaters (3) inserted in the optical fiber for transmission use. The mean value of wavelengths at which the wavelength dispersion of the optical fiber is zero is smaller than the wavelength of the lightwave signal which is transmitted over the system. The accumulated wavelength dispersion value of the optical fiber tends to increase with the distance of transmission, from a macroscopic viewpoint. The optical fiber for transmission is divided into a plurality of sections. In accordance with the accumulated wavelength dispersion value of the optical fiber in each section except at least the last one, a wavelength dispersion medium, which locally changes the wavelength dispersion in a manner to cancel the accumulated wavelength dispersion in the section at the wavelength of the lightwave signal, is inserted in the section to eliminate the accumulation of the timing jitter.

Fig. 4

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EUROPEAN SEARCH REPORT

Application Number
EP 95 30 6356

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
Y	EP-A-0 575 881 (NIPPON ELECTRIC CO) 29 December 1993	1,2	H04B10/18
A	* column 6, line 5 - line 49; figure 5 * * column 9, line 21 - line 46 *	3,6	
Y	FR-A-2 685 834 (FRANCE TELECOM) 2 July 1993 * page 5, line 11 - line 13 * * abstract; claim 8 *	1,2	
A	GB-A-2 268 018 (KOKUSAI DENSHIN DENWA CO LTD) 22 December 1993 * page 8, paragraph 2 - page 9, paragraph 1 * * page 9, last paragraph - page 10, paragraph 1 * * abstract; figure 1 *	1,2,6	
A	EP-A-0 554 714 (CORNING INC) 11 August 1993 * abstract; figures 1,3,4,11,14 *	1,2,4,6	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			H04B G02B
Place of search THE HAGUE		Date of completion of the search 7 October 1996	Examiner Goudelis, M
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background U : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application I : document cited for other reasons & : member of the same patent family, corresponding document</p>			

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